

Utility Patent Application

for

Nail Buffer and Polisher Having Pliable Body

by

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Related Applications

The present application claims the benefit or priority to United States  
Provisional Patent Application Serial Number (to be supplied later), filed  
10 October 17, 2003, using Express Mail Certificate No. ER158845635US,  
currently co-pending.

Field of the Invention

The present invention relates generally to the field of items used for  
15 personal hygiene. More specifically, the present invention is directed to  
items used for the care of fingernails and toe nails. The present invention is  
particularly useful for filing, buffing, and polishing fingernails and toe nails.

Background of the Invention

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Historically, a variety of abrasive devices have been used to file and remove extraneous portions of finger and toe nails. These devices include the most common fingernail file comprising a flat, planar body coated on each side with an abrasive material akin to sandpaper. While certainly effective, the traditional flat file has been known to be limited in its uses. More specifically, the traditional flat file tends to be very abrasive resulting in the over-filing of the nail. Furthermore, the rigid nature of the file results in limited filing angles that can be used by the fingernail technician to properly file the nail.

One attempt to overcome the deficiencies in the art is disclosed in United States Patent Number 5,899,210 which issued to Letherby et al. in 1999 for an invention entitled "Nail Tool Having Multiple Surfaces" (the "Letherby" device"). The Letherby device was formed with a triangular, elongate tube that provides for three planar surfaces and at least two corners. The planar surfaces provide a treatment surface, such as an abrasive, which is disposed on an intermediate layer of resilient foam. The tube is hollow to help reduce weight.

While the Letherby device does provide the nail technician with a useful tool, it nevertheless has its shortcomings. For example, the Letherby

device is made with a rigid base (see Column 2, lines 21-36) preferably made from polyvinyl chloride (PVC). This base, due to its rigidity, prevents the technician from bending the device in order to file nails most efficiently. More specifically, in some applications, it is advantageous to bend the abrasive surface of a file around the nail being filed. The Letherby device, however, cannot be bent around a nail due to its inflexible (e.g. rigid) nature.

Another limitation of the Letherby device is the requirement that the length of the device be approximately twice the circumference of the device (see Column 2, lines 14-20). This feature, however, requires that in order to use the device, the technician must grasp the device in an area having an abrasive material (See Figure 4 of the Letherby patent). Requiring that the technician grasp an abrasive material causes injury to the technician during periods of prolonged use. In fact, since many liquids are used during the filing and buffing of fingernails and toenails, the technician's skin is particularly susceptible to abrasion caused by grasping the abrasive surfaces of the Letherby device itself.

Several other devices have been introduced over the decades to address the deficiencies in the products available to the nail technician. For example, United States Patent Number 2,838,057 entitled "Manicure

Device" and issued in 1958 to Smith (the "Smith Patent") discloses a device that is based on a wooden quarter-round construction (see Column 1, lines 49-60). The quarter-round stock is coated with an abrasive material, such as sand or emery paper, or a polishing material such as chamois (see Column 1, lines 59-71). This device, however, is rigid in nature due to its wooden construction, and therefore is incapable of bending around a finger nail or toenail. Furthermore, the technician must grasp the Smith device on an abrasive area due to its complete abrasive coating. As a result, a technician using the Smith device would suffer much the same injury as with the Letherby device.

One solution to the problems associated with the grasping of an abrasive surface is shown in United States Patent Number 4,366,828, which issued in 1983 to Hokama for an invention entitled "Manicure Apparatus For Smoothing and Buffing Nails" (the "Hokama patent"). The Hokama patent as shown in Figure 1 of that patent includes a fingernail buffer and smoother that does not require the technician to grasp an abrasive surface. Referring to Figures 6 and 7 of the Hokama patent, it can be appreciated that the nail technician is provided with a slot for receiving the technician's fingers thereby saving them from the abrasive surfaces (See Column 2, lines 54-69).

While the device disclosed in the Hokama patent provides an abrasive-free solution for the nail technician, it nevertheless has its limitations. For example, the specific location of finger-holes in the body of the device limit the grasping options for the technician - the technician may only insert his or her fingers into the slot in the body. Grasping the device elsewhere would subject the technician to an abrasive surface which would result in injury to the technician following periods of extended use.

In light of the above, it would be advantageous to provide a multi-surfaced nail buffer and file that is easy to grasp without having to grasp an abrasive surface. It would be further advantageous to provide a nail buffer having a pliable nature in order to bend the buffer around the nail being filed or buffed to provide a smoother finished surface. It would be also advantageous to provide a buffer that is economical to manufacture and easier to use than the products currently available.

### Summary of the Invention

The present invention includes a Nail Buffer and Polisher Having Pliable Body that provides a solution to the shortcomings outlined above. Specifically, the present invention includes an elongated foam core body

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that, in a preferred embodiment, has a triangular cross-section. Each side of the foam core body is equipped with an abrasive or polishing material that, when presented to a fingernail or toe nail, provides either a filing or buffing treatment to the nail.

5           The elongated body is sized such that the device may be grasped from its ends. For example, the ends of the elongated body may be grasped between the thumb and finger of one hand in order to avoid grasping an abrasive surface. To this end, it is preferable, though not critical, that the body of the device have physical dimension wherein the length is  
10           approximately equal to the circumference of the device.

          The sides of the foam core body may each have a foam layer coated with either an abrasive or buffing material. For instance, one side of the foam core body may have a foam layer having a coarse abrasive, another side of the foam core body may have a foam layer having a fine abrasive,  
15           with the remaining side of the foam core body having a buffing material, such as Teflon or Mylar.

          The foam core body is made from a pliable foam material that allows the technician to bend the device around a nail being filed or buffed, and is soft enough so the core does not abrade the technician's fingers during even

prolonged periods of use. The present invention provides for a smoother and more time efficient result in the filing and buffing of the nails by the technician.

5     Brief Description of the Drawings

          The novel features of this invention, as well as the invention itself, both as to its structure and its operation, will be best understood from the accompanying drawings, taken in conjunction with the accompanying description, in which similar reference characters refer to similar parts, and in  
10    which:

          Figure 1 is a perspective view of the nail buffer and polisher having pliable body of the present invention showing the foam body having an abrasive and polishing material on foam pads attached to each of its three longitudinal sides;

15        Figure 2 is an end view of the nail buffer and polisher having pliable body of the present invention showing the foam body and the placement of the treatment surfaces having abrasive and polishing materials over foam pads attached to each of the three sides;

          Figure 3 is a cross-sectional view of the nail buffer and polisher having

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pliable body of the present invention taken along lines 3-3 of Figure 1, and showing the foam body, the foam pads, and the treatment surfaces having abrasive and polishing materials;

5 Figure 3A is a cross-sectional view of an alternative embodiment of the nail buffer and polisher having pliable body of the invention shown in Figure 3, further equipped with a stiffening member embedded within the foam body to increase the stiffness of the body;

10 Figure 4 is a perspective view of an alternative embodiment of the nail buffer and polisher having pliable body of the present invention having an abrasive and polishing material applied to, or formed directly on, the surface of the body on each of its three longitudinal sides;

15 Figure 5 is a perspective view of the nail buffer and polisher having pliable body showing the deformable nature of the body of the device allowing the nail technician to flex the body of the device to accommodate the curvature of a nail being filed or buffed; and

Figure 6 is a perspective view of the nail buffer and polisher having pliable body of the present invention shown as used by a nail technician by grasping the foam body by the ends using a thumb and finger thereby avoiding contact with an abrasive material.



### Detailed Description of a Preferred Embodiment

Referring now to Figures 1 and 2, the nail buffer and polisher having pliable body of the present invention is shown and generally designated 100. Device 100 includes a foam body 102 that is sufficiently rigid to hold its shape, however, is sufficiently pliable to be bent to provide curved filing and buffing surfaces. Foam body 102 has a length 104 and a generally triangular shape having sides 106, 108 and 110, with the sides having widths 107, 109, and 111, respectively.

In a preferred embodiment, length 104 is approximately 8.3 centimeters, and widths 107, 109, and 111 are each approximately 3 centimeters. While the particular dimension of the nail buffer and polisher having pliable body of the present invention are suitable for use as intended, it is nevertheless to be appreciated that these particular dimension are merely exemplary of a preferred embodiment, and that these dimensions may vary. As will be discussed more thoroughly in conjunction with Figure 6, it is important that the length 104 of body 102 be sufficiently small to be grasped between the thumb and finger of a nail technician.

Attached to sides 106, 108 and 110 are foam pads 112, 114, and 116 each having a treatment surface 118, 120, and 122. In a preferred

embodiment, treatment surfaces 118, 120, and 122 are different. For instance, treatment surface 118 may be a coarse abrasive, treatment surface 120 may be a finer abrasive, and treatment surface 122 may be a buffing surface.

5            Foam body 102 is made from a pliable foam material. In a preferred embodiment, foam body 102 is made from a foam having a density of 6 pounds however other foam densities may be used without departing from the scope of the present invention.

10           Referring to Figure 3, a cross-sectional view of the nail buffer and polisher having pliable body of the present invention is shown as taken along line 3-3 of Figure 1. From this Figure, the placement of foam pads 112, 114, and 116, is clearly shown. More specifically, foam pads are attached securely to the longitudinal sides 106, 108, and 110 of foam body 102.

15           In a preferred embodiment, foam pads 112, 114, and 116, are low density foams coated with an adhesive suitable for adhesion to the foam body 102. Adhesion may be accomplished by a heat fusion of the foam body 102 and the foam pads 112, 114, 116, or by the use of a suitable adhesive 117 compatible with the foam materials being used. Other attachment methods are known in the art and are fully contemplated herein

without departing from the spirit or scope of the nail buffer and polisher having pliable body of the present invention.

Treatment surfaces 118, 120, and 122 are depicted in Figure 3 as being a layer of material on the surface of foam pads 112, 114 and 116.

5 However, it is to be appreciated that the abrasive and polishing materials may be coated directly on the surface of foam pads 112, 114, and 116. Further, while the foam pads 112, 114, and 116 are shown to extend nearly to the ends of foam body 102, it is to be appreciated that these pads may be slightly smaller than the dimensions of sides 106, 108 and 110 of body 102,  
10 or they may extend to the edges of body 102.

Referring to Figure 3A, an alternative embodiment of the nail buffer and polisher having pliable body of the present invention of Figure 3 is shown having an internal support member 226. Internal support member 226 may be made of a more rigid foam than foam body 102, or it may be made from a  
15 substantially rigid material such as wood, plastic, metal or other material having similar properties. In any case, the addition of internal support member 226 to body 102 provides an additional stiffness to the body 102, yet still provides for a body 102 that is pliable for use during the nail filing and polishing process.

As shown as a preferred embodiment in Figure 3A, internal support member 226 is embedded within foam body 102. However, it is to be appreciated that internal support member 226 may extend the entire length 104 of body 102, being visible terminating at the ends of the body 102.

5           Figure 4 is a perspective view of an alternative embodiment of the nail buffer and polisher having pliable body of the present invention and is generally designated 200. Device 200 includes a foam body 202 having three sides 204, 206, and 208. Treatment surfaces 210, 212, and 214 are shown as applied directly onto foam body 202. Because of the pliable nature  
10 of foam body 202, it is not necessary to insert foam pads 112 as in device 100.

          The attachment of treatment surfaces 210, 212, 214 directly to the foam body 202 substantially decreases the costs of the nail buffer and polisher having pliable body of the present invention. More specifically, by  
15 directly coating foam body 202 with the desired treatment surfaces without using an intermediate foam layer (such as layers 112, 114, 116), the costs of the nail buffer and polisher having pliable body of the present invention is substantially reduced.

Referring to Figure 5, the nail buffer and polisher having pliable body 200 of the present invention is shown in a first configuration 220 wherein the body is in a substantially straight, or un-curved, configuration. When a force 224 is applied to the nail buffer and polisher having pliable body 200 of the present invention, the device changes its shape to a second, or curved, configuration 222 (shown in dashed lines) illustrating the flexibility of foam body 202.

Curved configuration 222 as shown represents the nail buffer and polisher having pliable body 200 of the present invention changing its shape so as to provide a curved filing and polishing surface for use by the nail technician. It is to be appreciated that by pressing the nail buffer and polisher having pliable body into a nail being treated, varying levels of friction may be created between the treatment surfaces 210, 212, 214, and the nail being treated (not shown).

Referring now to Figure 6, the nail buffer and polisher having pliable body 200 of the present invention is shown as grasped by a hand 250, representing the typical use of the present invention by a nail technician. More specifically, nail buffer and polisher having pliable body 200 of the present invention is grasped on its ends 228 and 230. Importantly, due to

the physical dimensions of the nail buffer and polisher having pliable body of the present invention, the technician may grasp the device by its ends. This is particularly useful when the technician is using lotions, liquids or solvents in the treatment of the nails. In such circumstances, the fingers of the technician become wet and overly susceptible to abrasion caused by contact with abrasive surfaces, such as typical polishing or buffing surfaces.

In addition to the safety features of the present invention, a benefit of the present invention provides for a longer-life buffing device. More specifically, because a nail technician often applies various lotions and liquids during the buffing and polishing processes, it is advantageous to grasp a buffing device by its ends in order to avoid contacting the buffing and filing surfaces. This is particularly so when considering the damage caused to a buffing and filing surface by exposure to lotions, liquids and moisture. In many cases, exposure of a filing surface to a lotion, liquid or moisture causes a marked decrease in the abrasive quality of the surface. In worst cases, the filing surface is no longer usable.

By using the nail buffer and polisher having pliable body 200 of the present invention, the technician is able to grasp the device by its ends 228 and 230 thereby avoiding touching the dangerous and potentially harmful

surfaces of the treatment surfaces 210, 212, 214 (shown in Figure 4). The safety aspect of the present invention is a significant improvement over the previously available products, and is one of the key aspects of novelty of the present invention.

5           In order for this aspect to be realized, it is important that the length 104 of foam body 102 be sized to be grasped between the thumb 252 and a finger 254 of the nail technician. Broadly, the length 104 could range between 2.5 inches to 4.5 inches. However, a preferred embodiment of the present invention measures 3.25 inches. Nevertheless, it is to be  
10       appreciated that the length 104 of the present invention is not limited to any particular size, so long as the device 100 or 200 may be grasped properly between the thumb 252 and finger 254 of the nail technician.

          While the particular nail buffer and polisher having pliable body as herein shown and disclosed in detail is fully capable of obtaining the objects  
15       and providing the advantages herein before stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of use, construction or design herein shown other than as described in the appended claims.